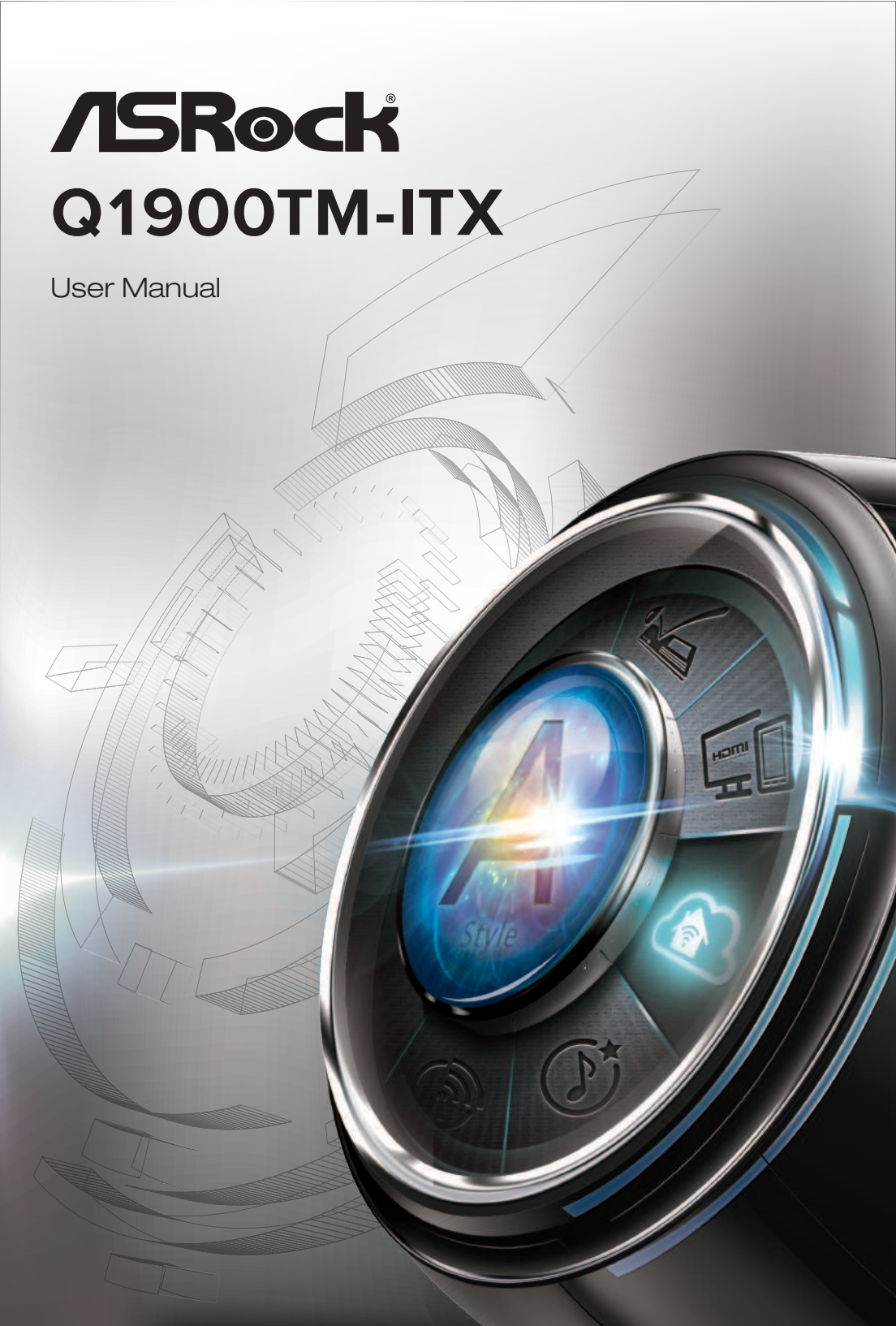
ASRock

Q1900TM-ITX

User Manual



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(1) this device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

CALIFORNIA, USA ONLY

The Lithium battery adopted on this motherboard contains Perchlorate, a toxic substance controlled in Perchlorate Best Management Practices (BMP) regulations passed by the California Legislature. When you discard the Lithium battery in California, USA, please follow the related regulations in advance.
"Perchlorate Material-special handling may apply, see www.dtsc.ca.gov/hazardouswaste/perchlorate"

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Chapter 1 Introduction

Thank you for purchasing ASRock Q1900TM-ITX motherboard, a reliable motherboard produced under ASRock's consistently stringent quality control. It delivers excellent performance with robust design conforming to ASRock's commitment to quality and endurance.

In this manual, Chapter 1 and 2 contains the introduction of the motherboard and step-by-step installation guides. Chapter 3 contains the operation guide of the software and utilities. Chapter 4 contains the configuration guide of the BIOS setup.

Because the motherboard specifications and the BIOS software might be updated, the content of this documentation will be subject to change without notice. In case any modifications of this documentation occur, the updated version will be available on ASRock's website without further notice. If you require technical support related to this motherboard, please visit our website for specific information about the model you are using. You may find the latest VGA cards and CPU support list on ASRock's website as well. ASRock website http://www.asrock.com.

1.1 Package Contents

- ASRock Q1900TM-ITX Motherboard (Mini-ITX Form Factor)
- ASRock Q1900TM-ITX Quick Installation Guide
- ASRock Q1900TM-ITX Support CD
- 2 x Serial ATA (SATA) Data Cables (Optional)
- 1 x SATA 1 to 2 Power Cable (Optional)
- 2 x I/O Panel Shields
- 1 x WiFi Module Screw

1.2 Specifications

Platform	• Thin Mini-ITX Form Factor (Compatible with Mini-ITX) • ASRock DuraCap (2.5 x longer life time) (100% Japan-made high-quality conductive polymer capacitors) • High Density Glass Fabric PCB
CPU	• Intel® Quad-Core Processor J1900 (2 GHz)
Memory	• Dual Channel DDR3/DDR3L Memory Technology • 2 x DDR3/DDR3L SO-DIMM Slots • Supports DDR3/DDR3L 1333/1066 non-ECC, un-buffered memory • Max. capacity of system memory: 16GB (see CAUTION)
Expansion Slot	• 1 x PCI Express 2.0 x1 Slot • 1 x mini-PCI Express Slot (Bluetooth function in WiFi module is not supported)
Graphics	• Intel® 7th generation (Gen 7) graphics (Supports Intel® Quick Sync Video) • DirectX 11.0, Pixel Shader 5.0 • Three graphics output options: D-Sub, HDMI and LVDS • Supports HDMI with max. resolution up to 1920x1200 @ 60Hz • Supports D-Sub with max. resolution up to 1920x1200 @ 60Hz • Supports LVDS with max. resolution up to 1920x1200 @ 60Hz • Supports Auto Lip Sync, Deep Color (12bpc), xvYCC and HBR (High Bit Rate Audio) with HDMI Port (Compliant HDMI monitor is required) • Supports HDCP with HDMI Port • Supports Full HD 1080p Blu-ray (BD) playback with HDMI Port

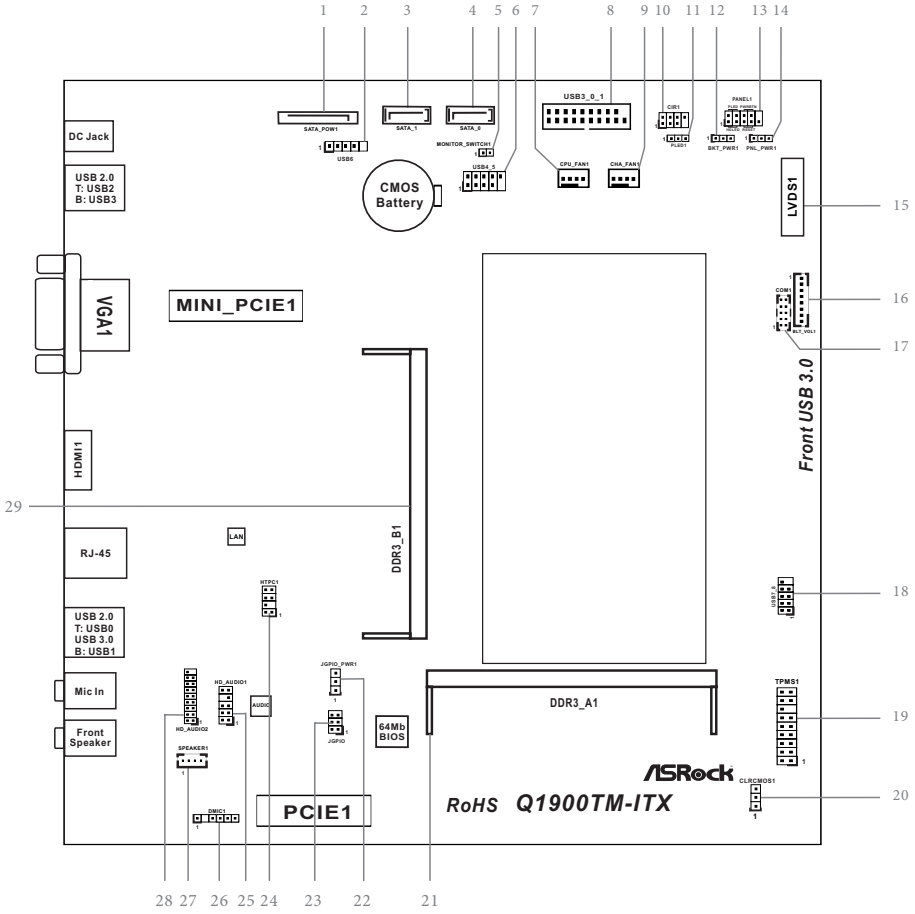
Audio	• 7.1 CH HD Audio with Content Protection (Realtek ALC892 Audio Codec) * To configure 7.1 CH HD Audio, it is required to use an HD front panel audio module and enable the multi-channel audio feature through the audio driver. • Premium Blu-ray Audio support • Supports Surge Protection (ASRock Full Spike Protection)
LAN	• PCIE x1 Gigabit LAN 10/100/1000 Mb/s • Qualcomm® Atheros® AR8171 • Supports Qualcomm® Atheros® Security Wake On Internet Technology • Supports Wake-On-LAN • Supports Lightning/ESD Protection (ASRock Full Spike Protection) • Supports Energy Efficient Ethernet 802.3az • Supports PXE
Rear Panel I/O	• 1 x DC Jack (Compatible with the 19V power adapter) • 1 x D-Sub Port • 1 x HDMI Port • 3 x USB 2.0 Ports (Supports ESD Protection (ASRock Full Spike Protection)) • 1 x USB 3.0 Port (Supports ESD Protection (ASRock Full Spike Protection)) • 1 x RJ-45 LAN Port with LED (ACT/LINK LED and SPEED LED) • HD Audio Jacks: Microphone / Front Speaker (Supports SPDIF Optical)
Storage	• 2 x SATA2 3.0 Gb/s Connectors, support NCQ, AHCI and Hot Plug
Connector	• 1 x Backlight Power Selection Jumper • 1 x Panel Power Selection Jumper • 1 x Backlight Control Header • 1 x Digital Input / Output Pin Header

	• 1 x Digital Input / Output Power Selection Jumper • 1 x Home Theater PC Header • 1 x Monitor Switch Header • 1 x Digital MIC Header • 1 x 3W Audio AMP Output Wafer Header • 1 x LVDS Connector • 1 x CIR Header • 1 x COM Port Header • 1 x Power LED Header • 1 x TPM Header • 1 x CPU Fan Connector (4-pin) • 1 x Chassis Fan Connector (4-pin) • 1 x SATA Power Connector • 1 x Front Panel Audio Connector • 3 x USB 2.0 Headers (Support 5 USB 2.0 ports) (Supports ESD Protection (ASRock Full Spike Protection)) • 1 x USB 3.0 Header by Etron EJ188 (Supports 2 USB 3.0 ports) (Supports ESD Protection (ASRock Full Spike Protection))
BIOS Feature	• 64Mb AMI UEFI Legal BIOS with GUI support • Supports Plug and Play • ACPI 1.1 compliant wake up events • SMBIOS 2.3.1 support
Hardware Monitor	• CPU/Chassis temperature sensing • CPU/Chassis Fan Tachometer • CPU/Chassis Quiet Fan (Auto adjust chassis fan speed by CPU temperature) • CPU/Chassis Fan multi-speed control • Voltage monitoring: +12V, +5V, +3.3V, CPU Vcore
OS	• Microsoft® Windows® 8.1 32-bit / 8.1 64-bit / 8 32-bit / 8 64-bit / 7 32-bit / 7 64-bit
Certifications	• FCC, CE, WHQL • ErP/EuP Ready (ErP/EuP ready power supply is required)

** For detailed product information, please visit our website: http://www.asrock.com*

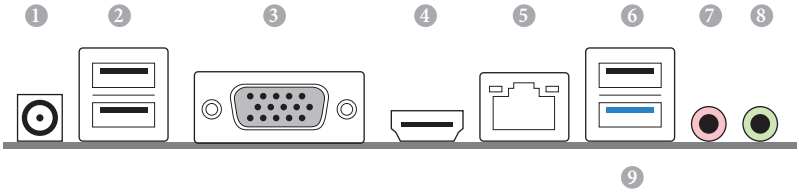
Due to limitation, the actual memory size may be less than 4GB for the reservation for system usage under Windows® 32-bit operating systems. Windows® 64-bit operating systems do not have such limitations. You can use ASRock XFast RAM to utilize the memory that Windows® cannot use.

1.3 Motherboard Layout



No.	Description
1	SATA Power Connector (SATA_POW1)
2	USB 2.0 Header (USB6)
3	SATA2 Connector (SATA_2)
4	SATA2 Connector (SATA_1)
5	Monitor Switch Header (MONITOR_SWITCH1)
6	USB 2.0 Header (USB4_5)
7	CPU Fan Connector (CPU_FAN1)
8	USB 3.0 Header (USB3_0_1)
9	Chassis Fan Connector (CHA_FAN1)
10	Consumer Infrared Module Header (CIR1)
11	Power LED Header (PLED1)
12	Backlight Power Jumper (BKT_PWR1)
13	System Panel Header (PANEL1)
14	Panel Power Jumper (PNL_PWR1)
15	LVDS Connector (LVDS1)
16	Backlight Control Header (BLT_VOL1)
17	COM Port Header (COM1)
18	USB 2.0 Header (USB7_8)
19	TPM Header (TPMS1)
20	Clear CMOS Jumper (CLRCMOS1)
21	204-pin DDR3 SO-DIMM Slots (DDR3_A1)
22	Digital Input / Output Power Selection Jumper (JGPIO_PWR1)
23	Digital Input / Output Pin Header (JGPIO)
24	Home Theater PC Header (HTPC1)
25	Front Panel Audio Header (HD_AUDIO1)
26	Digital MIC Header (DMIC1)
27	3W Audio AMP Output Wafer Header (SPEAKER1)
28	Analog Surround Audio Header (HD_AUDIO2)
29	204-pin DDR3 SO-DIMM Slots (DDR3_B1)

1.4 I/O Panel

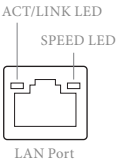


No.	Description	No.	Description
1	DC Jack*	6	USB 2.0 Ports (USB_0)
2	USB 2.0 Ports (USB_23)	7	Microphone (Pink)
3	D-Sub Port	8	Front Speaker (Lime)
4	HDMI Port (HDMI1)	9	USB 3.0 Ports (USB_1)
5	LAN RJ-45 Port**		

** Please use a 19V power adapter for the DC jack. This jack accepts dual barrel plugs with an inner diameter of 5.1 mm and an outer diameter of 7.4 mm, where the inner contact is +19 (±10%) VDC and the shell is GND.*

DELTA	*DELTA-ADP-150TB-150W/19V*
HP	*HP-TBC-BA52-150W/19V*
FSP	*FSP-FSP150-ABAN1-150W/19V*

*** There are two LEDs on each LAN port. Please refer to the table below for the LAN port LED indications.*



Activity / Link LED		Speed LED	
Status	Description	Status	Description
Off	No Link	Off	10Mbps connection
Blinking	Data Activity	Off	100Mbps connection
On	Link	Orange	1Gbps connection

English

Chapter 2 Installation

This is an Mini-ITX form factor motherboard. Before you install the motherboard, study the configuration of your chassis to ensure that the motherboard fits into it.

Pre-installation Precautions

Take note of the following precautions before you install motherboard components or change any motherboard settings.

- Make sure to unplug the power cord before installing or removing the motherboard. Failure to do so may cause physical injuries to you and damages to motherboard components.
- In order to avoid damage from static electricity to the motherboard's components, NEVER place your motherboard directly on a carpet. Also remember to use a grounded wrist strap or touch a safety grounded object before you handle the components.
- Hold components by the edges and do not touch the ICs.
- Whenever you uninstall any components, place them on a grounded anti-static pad or in the bag that comes with the components.
- When placing screws to secure the motherboard to the chassis, please do not over-tighten the screws! Doing so may damage the motherboard.

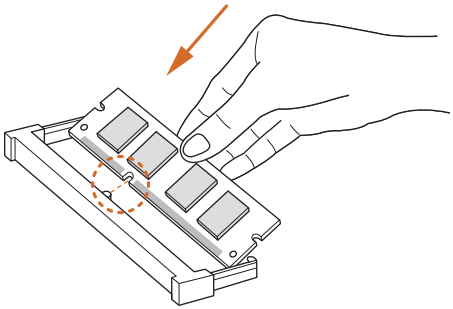
2.1 Installing Memory Modules (SO-DIMM)

This motherboard provides two 204-pin DDR3/DDR3L (Double Data Rate 3) SO-DIMM slots. Please install the SO-DIMM module into the DDR3_A1 for the first priority.

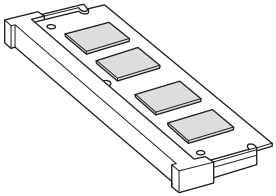
It is not allowed to install a DDR or DDR2 memory module into a DDR3/DDR3L slot; otherwise, this motherboard and SO-DIMM may be damaged.

The SO-DIMM only fits in one correct orientation. It will cause permanent damage to the motherboard and the SO-DIMM if you force the SO-DIMM into the slot at incorrect orientation.

1



2



2.2 Expansion Slots (PCI Express Slots)

There is 1 PCI Express slot and 1 mini PCI Express slot on this motherboard.

Before installing an expansion card, please make sure that the power supply is switched off or the power cord is unplugged. Please read the documentation of the expansion card and make necessary hardware settings for the card before you start the installation.

PCIe slot:

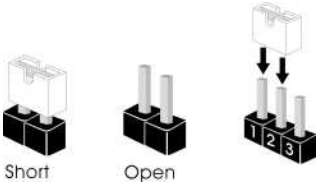
PCIE1 (PCIe 2.0 x4 slot) is used for PCI Express x4 lane width cards.

mini-PCIe slot:

MINI_PCIE1 (mini-PCIe slot) is used for WiFi module.

2.5 Jumpers Setup

The illustration shows how jumpers are setup. When the jumper cap is placed on the pins, the jumper is "Short". If no jumper cap is placed on the pins, the jumper is "Open". The illustration shows a 3-pin jumper whose pin1 and pin2 are "Short" when a jumper cap is placed on these 2 pins.



Clear CMOS Jumper (CLRCMOS1) (see p.5, No. 20)	 Default	 Clear CMOS

CLRCMOS1 allows you to clear the data in CMOS. To clear and reset the system parameters to default setup, please turn off the computer and unplug the power cord from the power supply. After waiting for 15 seconds, use a jumper cap to short pin2 and pin3 on CLRCMOS1 for 5 seconds. However, please do not clear the CMOS right after you update the BIOS. If you need to clear the CMOS when you just finish updating the BIOS, you must boot up the system first, and then shut it down before you do the clear-CMOS action. Please be noted that the password, date, time, and user default profile will be cleared only if the CMOS battery is removed.

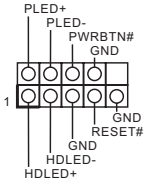
Backlight Power Jumper (3-pin BKT_PWR1) (see p.5, No. 12)		1-2 : +19V 2-3 : +12V
Panel Power Jumper (3-pin PNL_PWR1) (see p.5, No. 14)		1-2 : +3V 2-3 : +5V
Digital Input / Output Power Selection Jumper (see p.5, No. 22)		1-2 : +12V 2-3 : +5V

English

2.6 Onboard Headers and Connectors

Onboard headers and connectors are NOT jumpers. Do NOT place jumper caps over these headers and connectors. Placing jumper caps over the headers and connectors will cause permanent damage to the motherboard.

System Panel Header
(9-pin PANEL1)
(see p.5, No. 13)



Connect the power switch, reset switch and system status indicator on the chassis to this header according to the pin assignments below. Note the positive and negative pins before connecting the cables.

PWRBTN (Power Switch):
Connect to the power switch on the chassis front panel. You may configure the way to turn off your system using the power switch.

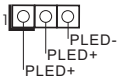
RESET (Reset Switch):
Connect to the reset switch on the chassis front panel. Press the reset switch to restart the computer if the computer freezes and fails to perform a normal restart.

PLED (System Power LED):
Connect to the power status indicator on the chassis front panel. The LED is on when the system is operating. The LED keeps blinking when the system is in S1/S3 sleep state. The LED is off when the system is in S4 sleep state or powered off (S5).

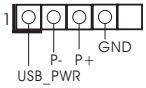
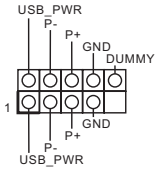
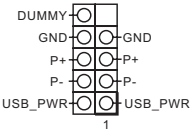
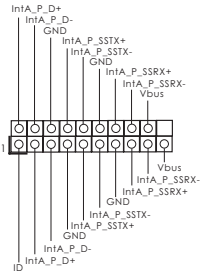
HDLED (Hard Drive Activity LED):
Connect to the hard drive activity LED on the chassis front panel. The LED is on when the hard drive is reading or writing data.

The front panel design may differ by chassis. A front panel module mainly consists of power switch, reset switch, power LED, hard drive activity LED, speaker and etc. When connecting your chassis front panel module to this header, make sure the wire assignments and the pin assignments are matched correctly.

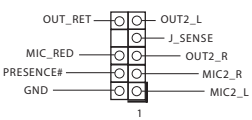
Power LED Header
(3-pin PLED1)
(see p.5, No. 11)



Please connect the chassis power LED to this header to indicate the system's power status.

Serial ATA2 Connectors (SATA_1: see p.5, No. 4) (SATA_2: see p.5, No. 3)		These two SATA2 connectors support SATA data cables for internal storage devices with up to 3.0 Gb/s data transfer rate.
SATA Power Connector (SATA_POW1) (see p.5, No. 1)		Please connect a SATA power cable.
USB 2.0 Headers (5-pin USB6) (see p.5, No. 2)		Besides two USB 2.0 ports on the I/O panel, there are two headers on this motherboard. Each USB 2.0 header can support two ports.
(9-pin USB4_5) (see p.5, No. 6)		
(9-pin USB7_8) (see p.5, No. 18)		
USB 3.0 Headers (19-pin USB3_0_1) (see p.5, No. 8)		Besides one USB 3.0 port on the I/O panel, there is one header on this motherboard. This USB 3.0 header can support two ports.

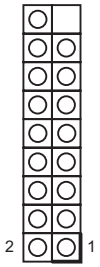
Front Panel Audio Header
(9-pin HD_AUDIO1)
(see p.5, No. 25)



This header is for connecting audio devices to the front audio panel.

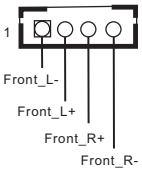
1. *High Definition Audio supports Jack Sensing, but the panel wire on the chassis must support HDA to function correctly. Please follow the instructions in our manual and chassis manual to install your system.*
2. *If you use an AC'97 audio panel, please install it to the front panel audio header by the steps below:*
   A. Connect Mic_IN (MIC) to MIC2_L.
   B. Connect Audio_R (RIN) to OUT2_R and Audio_L (LIN) to OUT2_L.
   C. Connect Ground (GND) to Ground (GND).
   D. MIC_RET and OUT_RET are for the HD audio panel only. You don't need to connect them for the AC'97 audio panel.
   E. To activate the front mic, go to the "FrontMic" Tab in the Realtek Control panel and adjust "Recording Volume".

Analog Surround
Audio Header
(17-pin HD_AUDIO2)
(see p.5, No. 28)

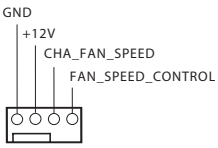
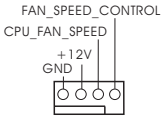
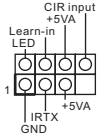
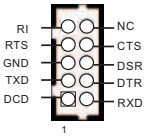


PIN	Signal Name	PIN	Signal Name
18	SENSE	**17**	KEY
16	LFE	**15**	A_GND
14	A_GND	**13**	Center
12	Surr_Rear_R	**11**	A_GND
10	A_GND	**9**	Surr_Rear_L
8	Surr_Side_R	**7**	A_GND
6	A_GND	**5**	Surr_Side_L
4	Front_R	**3**	A_GND
2	A_GND	**1**	Front_L

3W Audio AMP Output
Wafer Header
(4-pin SPEAKER1)
(see p.5, No. 27)



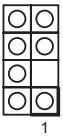
Please connect the chassis speaker to this header.

Chassis Fan Connector (4-pin CHA_FAN1) (see p.5, No. 9)		Please connect fan cable to the fan connector and match the black wire to the ground pin.
CPU Fan Connector (4-pin CPU_FAN1) (see p.5, No. 7)		This motherboard provides a 4-Pin CPU fan (Quiet Fan) connector. If you plan to connect a 3-Pin CPU fan, please connect it to Pin 1-3.
Consumer Infrared Module Header (7-pin CIR1) (see p.5, No. 10)		This header can be used to connect the remote controller receiver.
Serial Port Header (9-pin COM1) (see p.5, No. 17)		This COM1 header supports a serial port module.
Backlight Control Header (8-pin BLT_VOL1) (see p.5, No. 16)		1: Backlight Enable 2: Backlight Control 3: Backlight Power 4: Backlight Power 5: GND 6: GND 7: Brightness_Up 8: Brightness_Down

Digital MIC Header
(5-pin DMIC1)
(see p.5, No. 26)

1: +5V
2: No pin
3: SPDIF_OUT/DMIC_CLK
4: GND
5: DMIC_DATA
6: +3.3V

Home Theater PC
Header
(7-pin HTPC1)
(see p.5, No. 24)



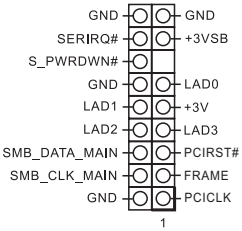
PIN	Signal Name	PIN	Signal Name
8	HDMI CEC	7	#Power_Button
6	SMB_DATA	5	3.3V Standby
4	SMB_CLK	3	No pin
2	GND	1	Recording LED

LVDS Panel Connector
(40-pin LVDS1)
(see p.5, No. 15)

PIN	Signal Name	PIN	Signal Name
1	ODD_Lane3_P	21	NC
2	ODD_Lane3_N	22	EDID_3.3V
3	ODD_Lane2_P	23	LCD_GND
4	ODD_Lane2_N	24	LCD_GND
5	ODD_Lane1_P	25	LCD_GND
6	ODD_Lane1_N	26	ODD_CLK_P
7	ODD_Lane0_P	27	ODD_CLK_N
8	ODD_Lane0_N	28	BKLT_GND
9	EVEN_Lane3_P	29	BKLT_GND
10	EVEN_Lane3_N	30	BKLT_GND
11	EVEN_Lane2_P	31	EDID_CLK
12	EVEN_Lane2_N	32	BKLT_ENABLE
13	EVEN_Lane1_P	33	BKLT_PWM_DIM
14	EVEN_Lane1_N	34	EVEN_CLK_P
15	EVEN_Lane0_P	35	EVEN_CLK_N
16	EVEN_Lane0_N	36	BKLT_PWR (12V/19V)
17	EDID_GND	37	BKLT_PWR (12V/19V)
18	LCD_VCC (3.3V/5V)	38	BKLT_PWR (12V/19V)
19	LCD_VCC (3.3V/5V)	39	NC
20	LCD_VCC (3.3V/5V)	40	EDID_DATA

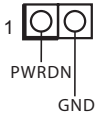
English

TPM Header
(17-pin TPMS1)
(see p.5, No. 19)



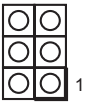
This connector supports Trusted Platform Module (TPM) system, which can securely store keys, digital certificates, passwords, and data. A TPM system also helps enhance network security, protects digital identities, and ensures platform integrity.

Monitor Switch Header
(2-pin MONITOR_
SWITCH1)
(see p.5, No. 5)



This header can be used to connect a switch that turns on/ off the LVDS panel display's backlight.

Digital Input / Output Pin Header
(10-pin JGPIO1)
(see p.5, No. 23)



PIN	Signal Name	PIN	Signal Name
6	GND	**5**	JGPIOPWR (use JGPIO_ PWR1 to configure)
4	GPIO4	**3**	GPIO3
2	GPIO2	**1**	GPIO1

English

Chapter 3 Software and Utilities Operation

3.1 Installing Drivers

The Support CD that comes with the motherboard contains necessary drivers and useful utilities that enhance the motherboard's features.

Running The Support CD

To begin using the support CD, insert the CD into your CD-ROM drive. The CD automatically displays the Main Menu if "AUTORUN" is enabled in your computer. If the Main Menu does not appear automatically, locate and double click on the file "ASRSETUP.EXE" in the Support CD to display the menu.

Drivers Menu

The drivers compatible to your system will be auto-detected and listed on the support CD driver page. Please click **Install All** or follow the order from top to bottom to install those required drivers. Therefore, the drivers you install can work properly.

Utilities Menu

The Utilities Menu shows the application software that the motherboard supports. Click on a specific item then follow the installation wizard to install it.

To improve Windows 7 compatibility, please download and install the following hot fix provided by Microsoft.
"KB2720599": http://support.microsoft.com/kb/2720599/en-us

3.2 A-Tuning

A-Tuning is ASRock's multi purpose software suite with a new interface, more new features and improved utilities, including XFast RAM and a whole lot more.

3.2.1 Installing A-Tuning

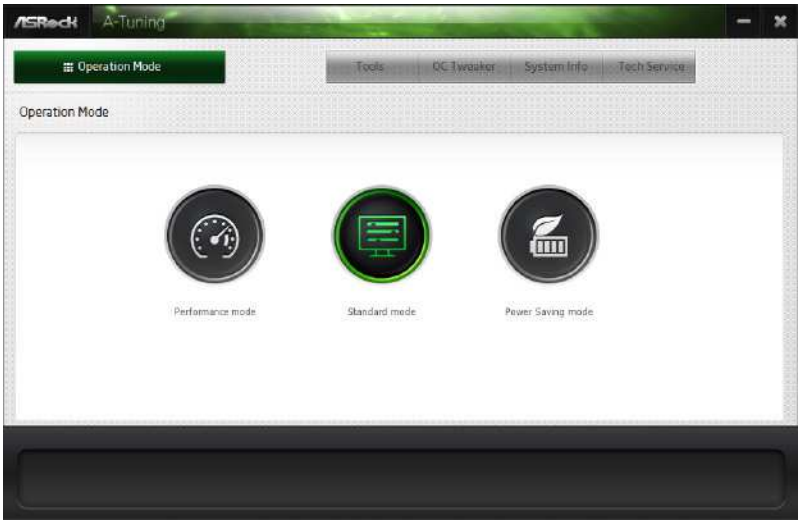
When you install the all-in-one driver to your system from ASRock's support CD, A-Tuning will be auto-installed as well. After the installation, you will find the icon "A-Tuning" on your desktop. Double-click the "A-Tuning" icon, A-Tuning main menu will pop up.

3.2.2 Using A-Tuning

There are five sections in A-Tuning main menu: Operation Mode and Tools.

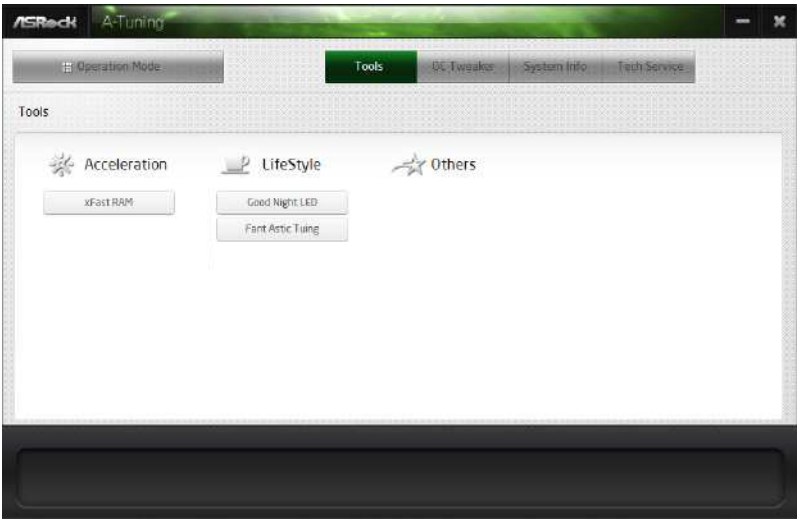
Operation Mode

Choose an operation mode for your computer.



Tools

Various tools and utilities.



XFast RAM

Boost the system's performance and extend the HDD's or SDD's lifespan! Create a hidden partition, then assign which files should be stored in the RAM drive.

Good Night LED

Switch off the Power/LAN LEDs when the system is on, and automatically switch off the Power and Keyboard LEDs when the system enters into Standby/Hibernation mode.

FAN-Tastic Tuning

Configure up to five different fan speeds using the graph. The fans will automatically shift to the next speed level when the assigned temperature is met.

3.3 Intel® Smart Connect Technology

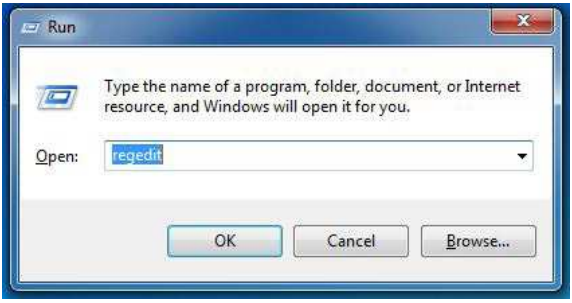
Intel® Smart Connect Technology is a feature that periodically wakes your computer from Windows® sleep state to refresh email or social networking applications. It saves your waiting time and keeps the content always up-to-date.

3.3.1 System Requirements

- Confirm whether your motherboard supports this feature.
- Operating system: Microsoft Windows 8/7 (32- or 64-bit edition)
- Set the SATA mode to AHCI. If Windows 8/7 is already installed under IDE mode, directly changing the SATA mode to AHCI may cause Windows 8/7 to crash while booting. If your system is not in AHCI mode, please follow the instructions below.

There are certain risks. Please backup any important data before operating to avoid loss.

1. Press **Win + R** simultaneously in Windows 8/7, type "Regedit" into the word box then click **OK**.



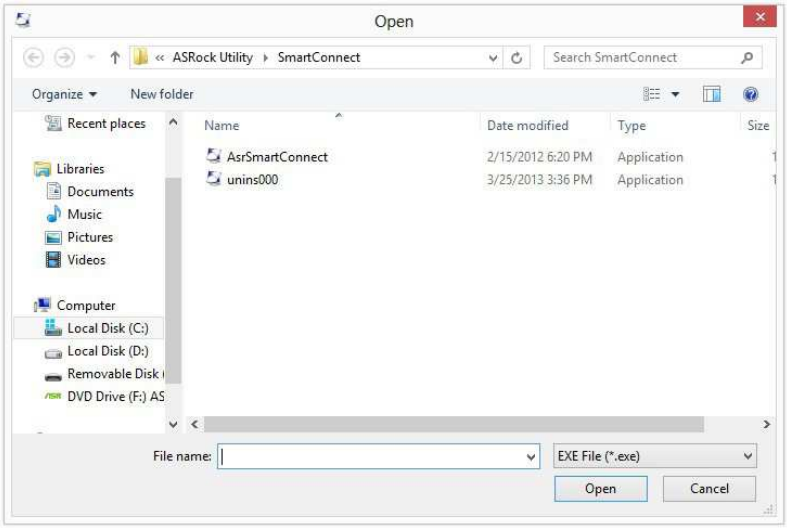
2. Enter into **HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\services\msahci** in Windows Registry Editor. Double click on the value **Start** and change the value from **3** into **0**. Click on **OK**.

3.3.2 Setup Guide

Installing ASRock Smart Connect Utility

Step 1

Install **ASRock Smart Connect Utility**, which is located in the folder at the following path of the Support CD: \ **ASRock Utility > Smart Connect**.

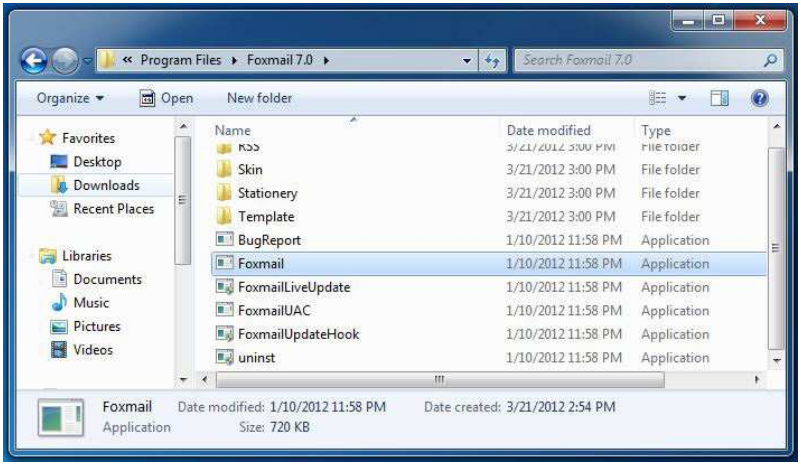


Step 2

Once installed, run ASRock Smart Connect from your desktop or go to Windows **Start -> All Programs -> ASRock Utility**.

Step 3

Click the **Add** button. Take Foxmail as an example, add Foxmail to the Application list.



Step 4

Select Foxmail from the **Application List**, then click the arrow pointing right to add this application to the **Smart Connect List**.

Step 5

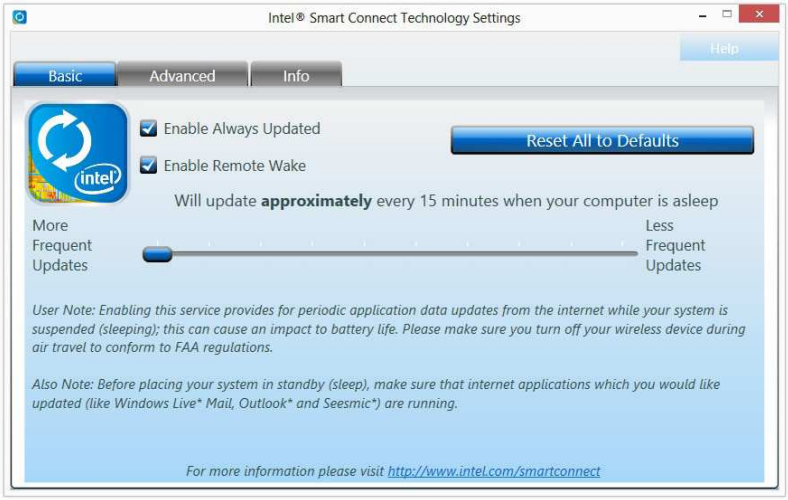
Click **Apply** to enable Smart Connect.

Step 6

Double-click the Intel® Smart Connect Technology Manager icon in the Windows system tray.

Step 7

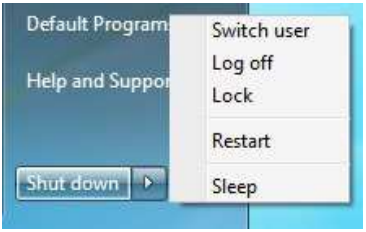
Drag the slider to configure how often the system will connect to the network to download updates. Shorter durations will provide more frequent updates, but may cause more power consumption.


Intel® Smart Connect Technology Settings
Help
Basic
Advanced
Info
Enable Always Updated
Enable Remote Wake
Reset All to Defaults
Will update approximately every 15 minutes when your computer is asleep
More Frequent Updates
Less Frequent Updates
User Note: Enabling this service provides for periodic application data updates from the internet while your system is suspended (sleeping); this can cause an impact to battery life. Please make sure you turn off your wireless device during air travel to conform to FAA regulations.
Also Note: Before placing your system in standby (sleep), make sure that internet applications which you would like updated (like Windows Live* Mail, Outlook* and Seesmic*) are running.
For more information please visit http://www.intel.com/smartconnect

Using Smart Connect

1. Keep the applications which you wish to connect to the internet and receive updates while the system is in sleep state running. Foxmail for instance, keep Foxmail running.

2. Click on Windows Start -> the arrow next to Shut down, and click on **Sleep**.



3. Windows system will enter sleep state.

4. The system will wake up from sleep state periodically, and then start to update Foxmail. The screen will not display anything so the computer can maintain minimum power usage. Afterwards, the system will automatically return to sleep state again.

5. Upon waking up the system, you will find the new mail that were sent to you during sleep state are already updated and ready to be read in Foxmail.

3.5 ASRock Cloud

ASRock makes your mobile devices connect to your PC seamlessly!

Have you ever been in a situation where you emergently needed certain files in your computer, however the computer was gazillion miles away out of reach? ASRock Cloud includes several technologies and software solutions for remotely controlling your computer, even if the computer is in off mode. For ASRock motherboards with a ***Qualcomm® Atheros® AR8171*** LAN chip, ASRock Cloud allows users to remotely wake up their computers via the internet by using a secondary device, such as a smartphone or tablet. Users may use ***Orbweb.ME Professional*** to remotely wake up and control their computers, or they could wake up the computer then use any other preferred remote desktop application. This motherboard supports Security Wake On Internet Technology with the onboard Qualcomm® Atheros® AR8171, so you can connect with your PC from anywhere in the world. You will be able to power your PC on or turn it off, monitor and take control of it remotely with another smartphone, tablet or computer.

**ASRock Cloud is supported on Windows 8.1 or Windows 7.*

3.51 Qualcomm® Atheros® Security Wake On Internet Technology

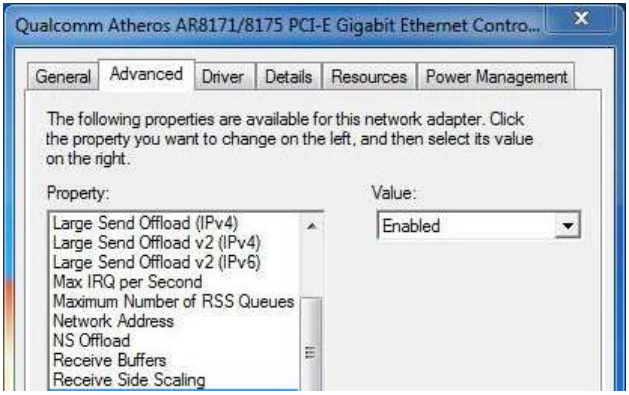
Qualcomm® Atheros® Security Wake On Internet Technology allows you to wake up and remote control your home computer from sleep or shutdown state.

Before configuring this feature, verify the followings on your host computer:

- Make sure that the "PCIE Devices Power On" is enabled in *UEFI SETUP UTILITY > Advanced > ACPI Configuration*.

**The UEFI screen is for reference only. The actual screen may differ by model.*

- Make sure that the "Shutdown Wake Up" and "SWOI" are enabled in *Device Manager > Network Adapters > Killer e2200 Gigabit Ethernet Controller (NDIS 6.30) Properties > Advanced*.
  *"SWOI" may not appear in certain driver versions.



3.5.2 Configuring and Using Orbweb.ME Professional

Orbweb.ME Professional is a remote control software allowing you to easily access and control the remote host installed with the Orbweb.ME Professional host software.

Installing Orbweb.ME Professional on the Host Computer

You can find the Orbweb.ME Professional host software in the Support CD or just download it from http://orbweb.me.

Step 1

Click on the Orbweb.ME Professional installer package file to start installation.

Step 2

Follow the onscreen instructions to complete the installation.

Step 3

When installation completes, reboot the computer.

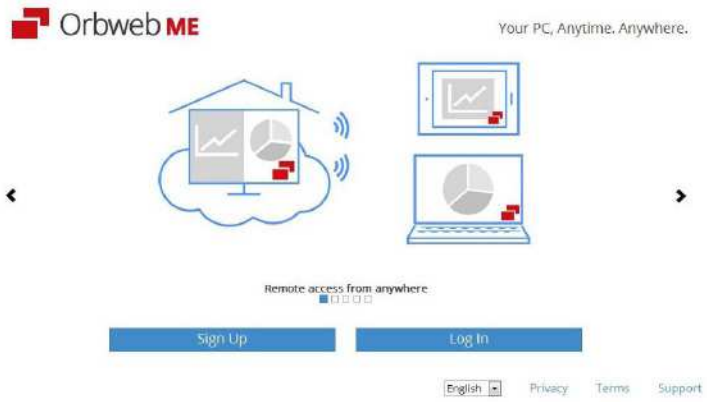
Signing Up for Host Computer Registration

Step 1

Double-click the Orbweb.ME Professional icon on your desktop.

Step 2

On the Orbweb.ME Portal login page, click **Sign Up** to create an Orbweb.ME account and name your host computer.



Step 3

You will receive a verification email. Follow the steps in the email to verify your account. After verifying your account, you can access your PC through web browsers at http://orbweb.me.

On the Account Verified page, if you click **Go to My Computers**, you will see the Orbweb.ME portal page as a client.

Setting Up Shared Folders on Host Computer

Step 1

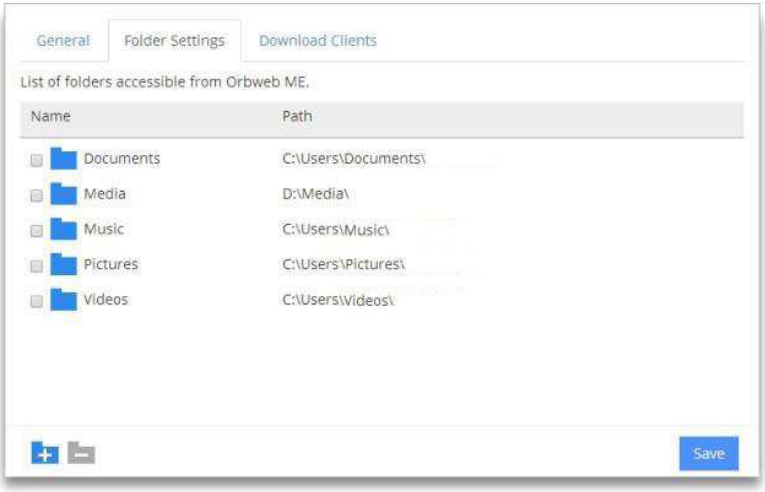
Double-click the Orbweb.ME Professional icon on your desktop.

Or, if you just finished signing up for your host computer, you can click **Configure this computer** in the screen to begin.

Step 2

Click **Folder Settings** tab and the default shared folders display.

To add a folder, click . Select a folder to add it into Orbweb.ME. Then click **Save**.



You can access the documents in these shared folders on the host computer remotely through Xplorer from your client device.

REMOTE ACCESS FROM A CLIENT DEVICE

The lastest version of Java is required to be installed to use the Remote Desktop and Xplorer functions.

Using Remote Wake-Up

Remote Wake-Up allows you to remotely put your host computer to sleep and wake your host computer up from a client device.

If you use a motherboard with dual LAN ports, please disable one of the LAN ports to use the Remote Wake-Up function. To do so, go to Control Panel > Network and Sharing Center > Manage Network Connections, right-click Local Area Connections and select Disable.

For Windows PC users:

Step 1

Go to Orbweb.ME portal login page: **http://orbweb.me**

Step 2

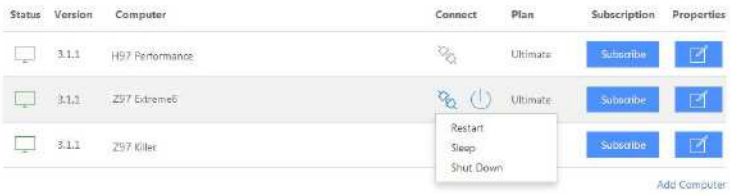
Log in with your Orbweb.ME account and password.

Step 3

Find the host computer from the list by the computer name you give.

Step 4

Click and power options appear. Click to select **Restart**, **Sleep** or **Shut Down**.



Select **Restart** from the options to restart your host computer remotely.

When you select **Sleep** or **Shut Down**, if the host device is WOW(Wake-On-Wan) compatible, you can put your host computer to sleep (S3/S4) or shut down your host computer (S5) remotely. The host status in the Status column shows offline and ready to be awaked and the power option shows wakable .
To wake up the computer, click .

Please be noted that if the host device is not WOW compatible, the host status icon will turn offline and the power option icon will disappear. You have to physically wake up computer in order to bring power option icon back to online.

For iOS or Android Mobile Devices users:

Download and install "Orbweb.ME Professional" app from the App Store (iOS) or Play Store (Android).

Step 1

Tap the "Orbweb.ME Professional" app icon to launch it.

Step 2

Log in with your Orbweb.ME account and password.

Step 3

Tap the **Power Options** icon and power options appear.

Tap to select **Restart**, **Sleep** or **Shutdown**.

English

Please be noted that if the host device is not WOW compatible, the host status icon will turn offline and the power option icon will dissappear. You have to physically wake up computer in order to bring power option icon back to online.

Using Remote Desktop

Remote Desktop allows you to remotely access your host computer from a client device.

For Windows PC users:

Step 1

Go to Orbweb.ME portal login page: **http://orbweb.me**

Step 2

Log in with your Orbweb.ME account and password.

Step 3

Click the **Connect** icon .

Step 4

Click on **Remote Desktop**.

If the **Remote Desktop Connection** dialog appears, click **Connect** to continue.

Step 5

Enter the Windows password to log in and you will see the desktop of your host computer.

Please refer to the user manual of the Orbweb.ME Professional for more instructions on how to use Orbweb.ME Professional.

For iOS or Android Mobile Devices users:

Download and install "Orbweb.ME Professional" app from the App Store (iOS) or Play Store (Android).

Step 1

Tap the "Orbweb.ME Professional" app icon to launch it.

Step 2

Log in with your Orbweb.ME account and password.

Step 3

Tap the host computer name that you want to access under the **Remote Desktop** section.

Step 4

Enter the Windows password to log in and you will see the desktop of your host computer.

Using Xplorer

Xplorer allows you to remotely access documents on your host computer from a client device.

For Windows PC users:

Step 1

Go to Orbweb.ME portal login page: **http://orbweb.me**

Step 2

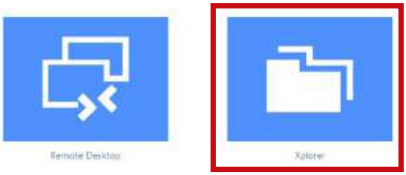
Log in with your Orbweb.ME account and password.

Step 3

Click the **Connect** icon .

Step 4

Click on **Xplorer**.



Step 5

Root directory displays. Click on a folder name to open the folder.

Name	Type	Size	Date
Documents	Folder		2014-03-24 21:50:41
Music	Folder		2014-03-24 21:37:03
Pictures	Folder		2014-03-24 21:37:03
Videos	Folder		2014-03-24 21:37:03

Step 6

Click on a file name to preivew the file.

You can also delete, rename, move, and copy a selected file. For more instructions on how to use Xplorer, refer to the user manual of the Orbweb.ME Professional.

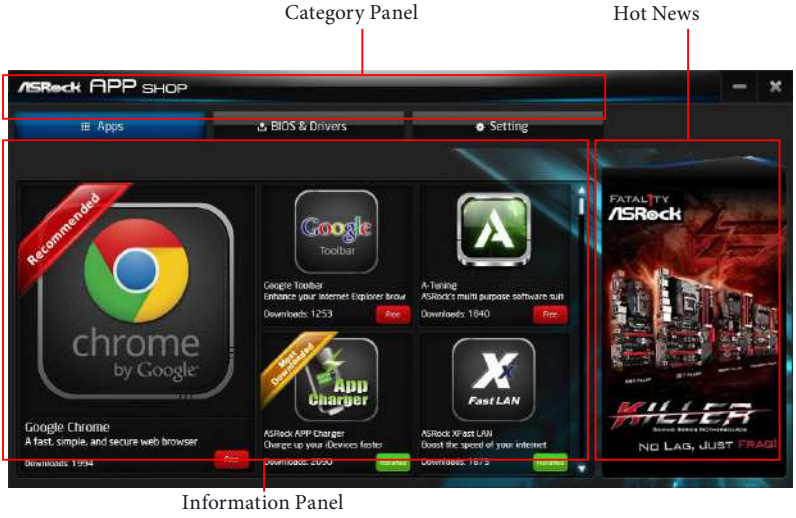
3.6 ASRock APP Shop

The ASRock APP Shop is an online store for purchasing and downloading software applications for your ASRock computer. You can install various apps and support utilities quickly and easily, and optimize your system and keep your motherboard up to date simply with a few clicks.

Double-click on your desktop to access ASRock APP Shop utility.

**You need to be connected to the Internet to download apps from the ASRock APP Shop.*

3.6.1 UI Overview



Category Panel: The category panel contains several category tabs or buttons that when selected the information panel below displays the relative information.

Information Panel: The information panel in the center displays data about the currently selected category and allows users to perform job-related tasks.

Hot News: The hot news section displays the various latest news. Click on the image to visit the website of the selected news and know more.

English

3.6.2 Apps

When the "Apps" tab is selected, you will see all the available apps on screen for you to download.

Installing an App

Step 1

Find the app you want to install.

The most recommended app appears on the left side of the screen. The other various apps are shown on the right. Please scroll up and down to see more apps listed.

You can check the price of the app and whether you have already intalled it or not.

Free - The red icon displays the price or "Free" if the app is free of charge.

Installed - The green "Installed" icon means the app is installed on your computer.

Step 2

Click on the app icon to see more details about the selected app.

Step 3

If you want to install the app, click on the red icon Free to start downloading.

Step 4

When installation completes, you can find the green "Installed" icon appears on the upper right corner.

To uninstall it, simply click on the trash can icon .
*The trash icon may not appear for certain apps.

English

Upgrading an App

You can only upgrade the apps you have already installed. When there is an available new version for your app, you will find the mark of "New Version"

appears below the installed app icon.

Step 1

Click on the app icon to see more details.

Step 2

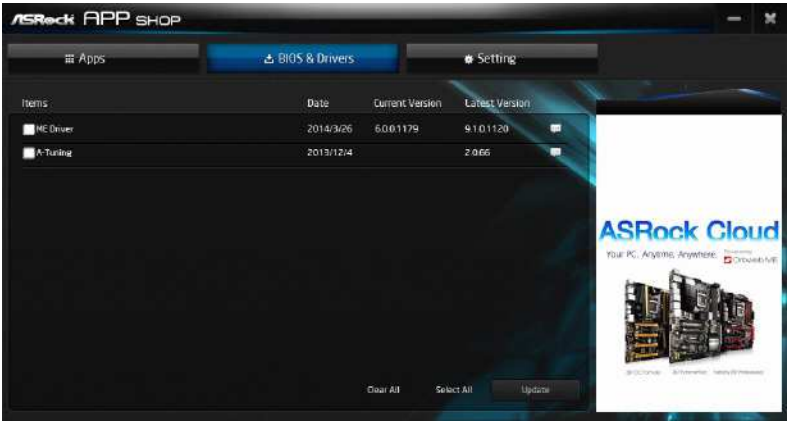
Click on the yellow icon

to start upgrading.

3.6.3 BIOS & Drivers

Installing BIOS or Drivers

When the "BIOS & Drivers" tab is selected, you will see a list of recommended or critical updates for the BIOS or drivers. Please update them all soon.



Step 1

Please check the item information before update. Click on to see more details.

Step 2

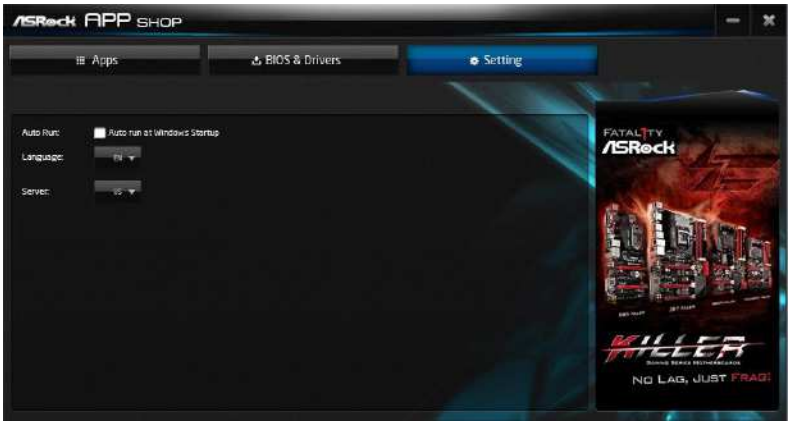
Click to select one or more items you want to update.

Step 3

Click Update to start the update process.

3.6.4 Setting

In the "Setting" page, you can change the language, select the server location, and determine if you want to automatically run the ASRock APP Shop on Windows startup.



For iOS or Android Mobile Devices users:

Download and install "Orbweb.ME Professional" app from the App Store (iOS) or Play Store (Android).

Step 1

Tap the "Orbweb.ME Professional" app icon to launch it.

Step 2

Log in with your Orbweb.ME account and password.

Step 3

Tap the **Connect** icon .

Step 4

Tap a folder name under the **Xplorer** section and you can see the files in this folder.

Tap a file name to preivew the file.

You can also delete, rename, move, and copy a selected file. For more instructions on how to use Xplorer, refer to the user manual of the Orbweb.ME Professional.

Tutorial Video

3.7 Start8

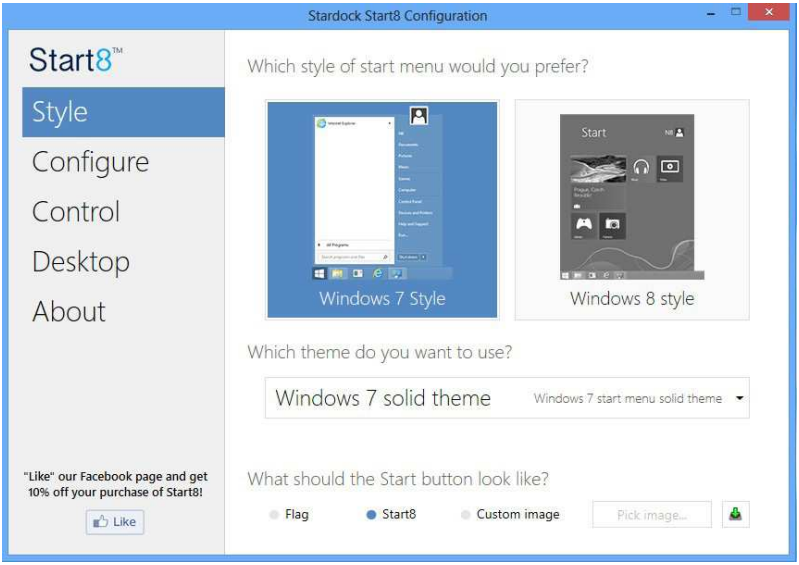
For those Windows 8 users who miss the Start Menu, Start8 is an ideal solution that brings back the familiar Start Menu along with added customizations for greater efficiency.

3.7.1 Installing Start8

Install **Start8**, which is located in the folder at the following path of the Support CD: \ **ASRock Utility** > **Start8**.

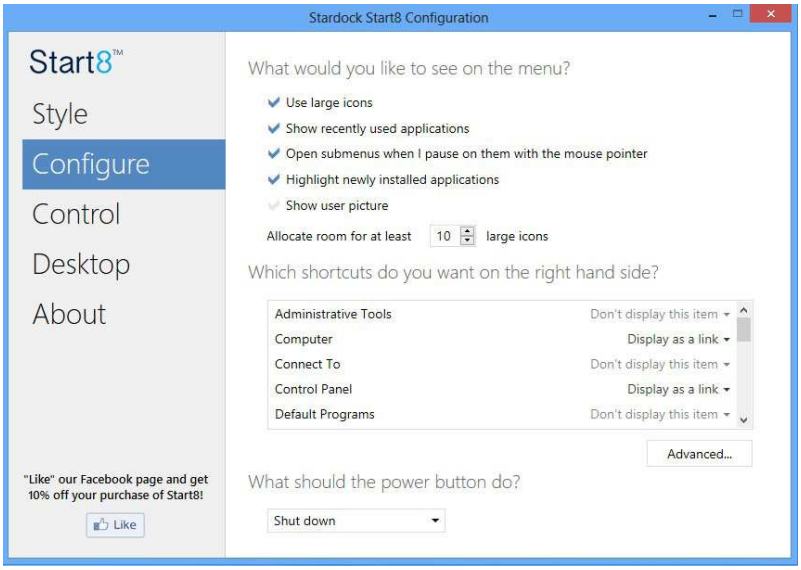
3.7.2 Configuring Start8

Style



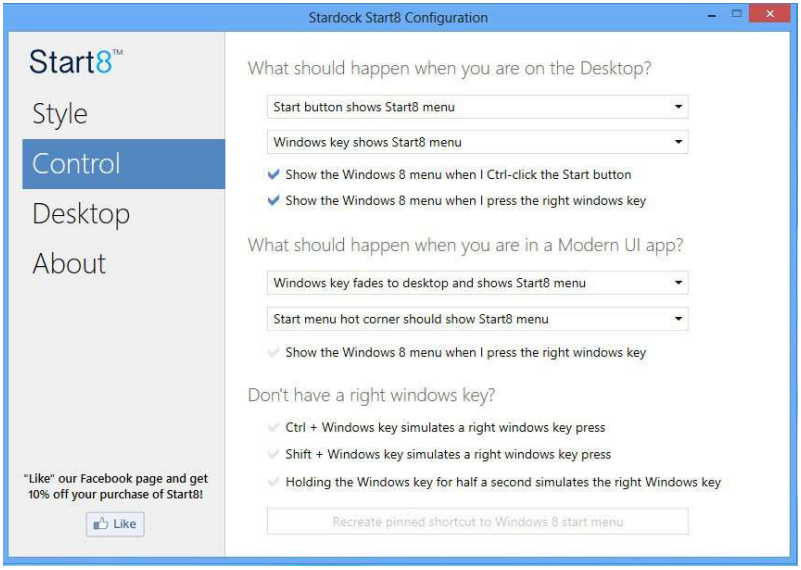
Select between the Windows 7 style and Windows 8 style Start Menu. Then select the theme of the Start Menu and customize the style of the Start icon.

Configure


Stardock Start8 Configuration
Start8™
Style
Configure
Control
Desktop
About
"Like" our Facebook page and get 10% off your purchase of Start8!
Like
What would you like to see on the menu?
Use large icons
Show recently used applications
Open submenus when I pause on them with the mouse pointer
Highlight newly installed applications
Show user picture
Allocate room for at least 10 large icons
Which shortcuts do you want on the right hand side?
Administrative Tools Don't display this item
Computer Display as a link
Connect To Don't display this item
Control Panel Display as a link
Default Programs Don't display this item
Advanced...
What should the power button do?
Shut down

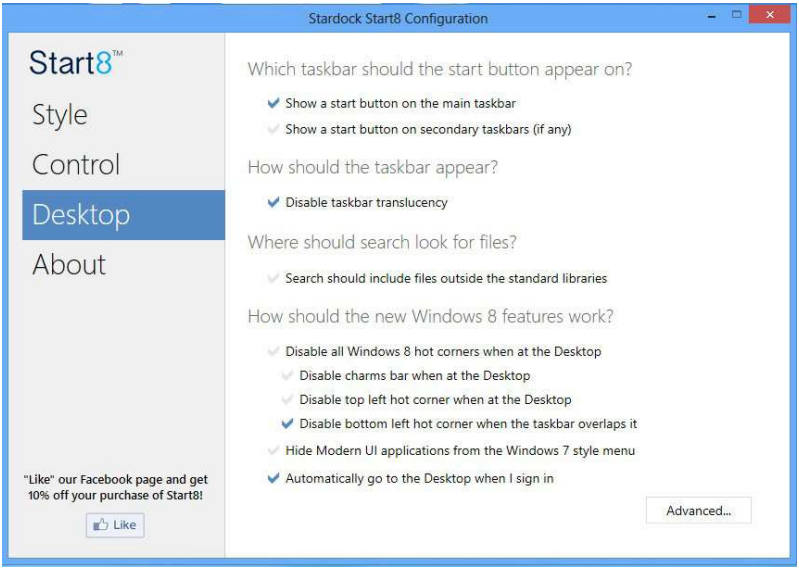
Configure provides configuration options, including icon sizes, which shortcuts you want Start Menu to display, quick access to recently used apps, the functionality of the power button, and more.

Control


Stardock Start8 Configuration
Start8™
Style
Control
Desktop
About
"Like" our Facebook page and get 10% off your purchase of Start8!
Like
What should happen when you are on the Desktop?
Start button shows Start8 menu
Windows key shows Start8 menu
Show the Windows 8 menu when I Ctrl-click the Start button
Show the Windows 8 menu when I press the right windows key
What should happen when you are in a Modern UI app?
Windows key fades to desktop and shows Start8 menu
Start menu hot corner should show Start8 menu
Show the Windows 8 menu when I press the right windows key
Don't have a right windows key?
Ctrl + Windows key simulates a right windows key press
Shift + Windows key simulates a right windows key press
Holding the Windows key for half a second simulates the right Windows key
Recreate pinned shortcut to Windows 8 start menu

Control lets you configure what a click on the start button or a press on the Windows key does.

Desktop


Stardock Start8 Configuration
Start8™
Style
Control
Desktop
About
"Like" our Facebook page and get 10% off your purchase of Start8!
Like
Which taskbar should the start button appear on?
Show a start button on the main taskbar
Show a start button on secondary taskbars (if any)
How should the taskbar appear?
Disable taskbar translucency
Where should search look for files?
Search should include files outside the standard libraries
How should the new Windows 8 features work?
Disable all Windows 8 hot corners when at the Desktop
Disable charms bar when at the Desktop
Disable top left hot corner when at the Desktop
Disable bottom left hot corner when the taskbar overlaps it
Hide Modern UI applications from the Windows 7 style menu
Automatically go to the Desktop when I sign in
Advanced...

Desktop allows you to disable the hot corners when you are working on the desktop. It also lets you choose whether or not the system boots directly into desktop mode and bypass the Metro user interface.

About

Displays information about Start8.

Chapter 4 UEFI SETUP UTILITY

4.1 Introduction

ASRock Interactive UEFI is a blend of system configuration tools, cool sound effects and stunning visuals. Not only will it make BIOS setup less difficult but also a lot more amusing. This section explains how to use the UEFI SETUP UTILITY to configure your system. You may run the UEFI SETUP UTILITY by pressing <F2> or <Del> right after you power on the computer, otherwise, the Power-On-Self-Test (POST) will continue with its test routines. If you wish to enter the UEFI SETUP UTILITY after POST, restart the system by pressing <Ctl> + <Alt> + <Delete>, or by pressing the reset button on the system chassis. You may also restart by turning the system off and then back on.

Because the UEFI software is constantly being updated, the following UEFI setup screens and descriptions are for reference purpose only, and they may not exactly match what you see on your screen.

4.1.1 UEFI Menu Bar

The top of the screen has a menu bar with the following selections:

Main	For setting system time/date information
Advanced	For advanced system configurations
Tool	Useful tools
H/W Monitor	Displays current hardware status
Boot	For configuring boot settings and boot priority
Security	For security settings
Exit	Exit the current screen or the UEFI Setup Utility

4.1.2 Navigation Keys

Use <←> key or <→> key to choose among the selections on the menu bar, and use < ↑ > key or < ↓ > key to move the cursor up or down to select items, then press <Enter> to get into the sub screen. You can also use the mouse to click your required item.

Please check the following table for the descriptions of each navigation key.

Navigation Key(s)	Description
+ / -	To change option for the selected items
<Tab>	Switch to next function
<PGUP>	Go to the previous page
<PGDN>	Go to the next page
<HOME>	Go to the top of the screen
<END>	Go to the bottom of the screen
<F1>	To display the General Help Screen
<F4>	Toggle sound on/off
<F7>	Discard changes and exit the SETUP UTILITY
<F9>	Load optimal default values for all the settings
<F10>	Save changes and exit the SETUP UTILITY
<F12>	Print screen
<ESC>	Jump to the Exit Screen or exit the current screen

4.2 Main Screen

When you enter the UEFI SETUP UTILITY, the Main screen will appear and display the system overview.

4.3 Advanced Screen

In this section, you may set the configurations for the following items: CPU Configuration, Chipset Configuration, Storage Configuration, Intel® Smart Connect Technology, Super IO Configuration, ACPI Configuration and USB Configuration.

Setting wrong values in this section may cause the system to malfunction.

4.3.1 CPU Configuration

Intel SpeedStep Technology

Intel SpeedStep technology allows processors to switch between multiple frequencies and voltage points for better power saving and heat dissipation.

CPU C States Support

Enable CPU C States Support for power saving. It is recommended to keep C3, C6 and C7 all enabled for better power saving.

Enhanced Halt State (C1E)

Enable Enhanced Halt State (C1E) for lower power consumption.

No-Execute Memory Protection

Processors with No-Execution Memory Protection Technology may prevent certain classes of malicious buffer overflow attacks.

Intel Virtualization Technology

Intel Virtualization Technology allows a platform to run multiple operating systems and applications in independent partitions, so that one computer system can function as multiple virtual systems.

4.3.2 Chipset Configuration

DRAM Voltage

Use this to configure DRAM Voltage. The default value is [Auto].

Primary Graphics Adapter

Select a primary VGA.

Share Memory

Configure the size of memory that is allocated to the integrated graphics processor when the system boots up.

LVDS Configuration

Configure the setting for LVDS.

Panel Type Selection

Select the panel type.

Onboard HD Audio

Enable/disable onboard HD audio. Set to Auto to enable onboard HD audio and automatically disable it when a sound card is installed.

Front Panel

Disable the front panel HD audio or set it to [Auto].

External Panel

Configure the setting for HD Audio External Panel.

Onboard HDMI HD Audio

Enable audio for the onboard digital outputs.

Onboard LAN

Enable or disable the onboard network interface controller.

PCIE1 Link Speed

Select the link speed for PCIE1.

Deep S5

Configure deep sleep mode for power saving when the computer is shut down.

Restore on AC/Power Loss

Select the power state after a power failure. If [Power Off] is selected, the power will remain off when the power recovers. If [Power On] is selected, the system will start to boot up when the power recovers.

Good Night LED

By enabling Good Night LED, the Power/LAN LEDs will be switched off when the system is on. It will also automatically switch off the Power and Keyboard LEDs when the system enters into Standby/Hibernation mode.

WiFi Radio

Enable/disable the WiFi module's connectivity.

4.3.3 Storage Configuration

SATA Controller(s)

Enable/disable the SATA controllers.

SATA Mode Selection

IDE: For better compatibility.

AHCI: Supports new features that improve performance.

AHCI (Advanced Host Controller Interface) supports NCQ and other new features that will improve SATA disk performance but IDE mode does not have these advantages.

SATA Aggressive Link Power Management

SATA Aggressive Link Power Management allows SATA devices to enter a low power state during periods of inactivity to save power. It is only supported by AHCI mode.

Hard Disk S.M.A.R.T.

S.M.A.R.T stands for Self-Monitoring, Analysis, and Reporting Technology. It is a monitoring system for computer hard disk drives to detect and report on various indicators of reliability.

4.3.4 Intel® Smart Connect Technology

Intel® Smart Connect Technology

Intel® Smart Connect Technology automatically updates your email and social networks, such as Twitter, Facebook, etc. while the computer is in sleep mode.

4.3.5 Super IO Configuration

Serial Port 1

Enable or disable the Serial port 1.

Serial Port Address

Select the address of the Serial port.

4.3.6 ACPI Configuration

Suspend to RAM

It is recommended to select auto for ACPI S3 power saving.

ACPI HPET Table

Enable the High Precision Event Timer for better performance and to pass WHQL tests.

PCIE Device Power On

Allow the system to be waked up by a PCIE device and enable wake on LAN.

Ring-In Power On

Allow the system to be waked up by onboard COM port modem Ring-In signals.

RTC Alarm Power On

Allow the system to be waked up by the real time clock alarm. Set it to By OS to let it be handled by your operating system.

USB Keyboard/Remote Power On

Allow the system to be waked up from S5 by an USB keyboard or remote controller.

USB Mouse Power On

Allow the system to be waked up from S5 by an USB mouse.

4.3.7 USB Configuration

USB 3.0 Controller

Enable or disable all the USB 3.0 ports.

Legacy USB Support

Enable or disable Legacy OS Support for USB 2.0 devices. If you encounter USB compatibility issues it is recommended to disable legacy USB support. Select UEFI Setup Only to support USB devices under the UEFI setup and Windows/Linux operating systems only.

4.3.8 Trusted Computing

Security Device Support

Enable or disable BIOS support for security device.

4.4 Tools

ASRock UEFI Setup Utility
Main
Advanced
Tool
H/W Monitor
Security
Boot
Exit
UEFI Update Utility
Instant Flash
Internet Flash - DHCP (Auto IP), Europe
Network Configuration
Description
Save UEFI files in your USB storage device and run Instant Flash to update your UEFI. Please note that your USB storage device must be FAT32/16/12 or NTFS file system. Only root directory is working on NTFS drive."
Get details via QR code
English
Mon 06/12/2014, 14:35:20

Instant Flash

Save UEFI files in your USB storage device and run Instant Flash to update your UEFI.

Internet Flash

ASRock Internet Flash downloads and updates the latest UEFI firmware version from our servers for you. Please setup network configuration before using Internet Flash.

*For BIOS backup and recovery purpose, it is recommended to plug in your USB pen drive before using this function.

Network Configuration

Use this to configure internet connection settings for Internet Flash.

Internet Setting

Select an internet connection mode.

UEFI Download Server

Select a server to download the UEFI firmware.

4.5 Hardware Health Event Monitoring Screen

This section allows you to monitor the status of the hardware on your system, including the parameters of the CPU temperature, motherboard temperature, fan speed and voltage.

CPU Fan 1 Type

Select 3pin or 4pin fan type.

CHA Fan 1 Type

Select 3pin or 4pin fan type.

CPU Fan 1 Setting

Select a fan mode for CPU Fans 1, or choose Customize to set CPU temperatures and assign a respective fan speed for each temperature.

CHA Fan 1 Setting

Select a fan mode for Chassis Fan 1, or choose Customize to set CPU temperatures and assign a respective fan speed for each temperature.

4.6 Boot Screen

This section displays the available devices on your system for you to configure the boot settings and the boot priority.

Fast Boot

Fast Boot minimizes your computer's boot time. In fast mode you may not boot from an USB storage device. Ultra Fast mode is only supported by Windows 8 and the VBIOS must support UEFI GOP if you are using an external graphics card. Please notice that Ultra Fast mode will boot so fast that the only way to enter this UEFI Setup Utility is to Clear CMOS or run the Restart to UEFI utility in Windows.

Boot From Onboard LAN

Allow the system to boot from the onboard LAN.

Setup Prompt Timeout

Configure the number of seconds to wait for the setup hot key.

Bootup Num-Lock

Select whether Num Lock should be turned on or off when the system boots up.

Full Screen Logo

Enable to display the boot logo or disable to show normal POST messages.

CSM (Compatibility Support Module)

CSM

Enable to launch the Compatibility Support Module. Please do not disable unless you're running a WHCK test. If you are using Windows 8 64-bit and all of your devices support UEFI, you may also disable CSM for faster boot speed.

4.7 Security Screen

In this section you may set or change the supervisor/user password for the system. You may also clear the user password.

Supervisor Password

Set or change the password for the administrator account. Only the administrator has authority to change the settings in the UEFI Setup Utility. Leave it blank and press enter to remove the password.

User Password

Set or change the password for the user account. Users are unable to change the settings in the UEFI Setup Utility. Leave it blank and press enter to remove the password.

Secure Boot

Enable to support Windows 8 Secure Boot.

4.8 Exit Screen

Save Changes and Exit

When you select this option the following message, "Save configuration changes and exit setup?" will pop out. Select [OK] to save changes and exit the UEFI SETUP UTILITY.

Discard Changes and Exit

When you select this option the following message, "Discard changes and exit setup?" will pop out. Select [OK] to exit the UEFI SETUP UTILITY without saving any changes.

Discard Changes

When you select this option the following message, "Discard changes?" will pop out. Select [OK] to discard all changes.

Load UEFI Defaults

Load UEFI default values for all options. The F9 key can be used for this operation.

Launch EFI Shell from filesystem device

Copy shellx64.efi to the root directory to launch EFI Shell.

Contact Information

If you need to contact ASRock or want to know more about ASRock, you're welcome to visit ASRock's website at http://www.asrock.com; or you may contact your dealer for further information. For technical questions, please submit a support request form at http://www.asrock.com/support/tsd.asp

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